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<110> AMGEN INC.
 Aldrich, Teri
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 Jacobsen, Frederick W.
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 Allen, Martin J.

<120> Monkey Immunoglobulin Sequences

<130> A-951 (WO)

<140> --to be assigned

<141> 2004-11-04

<150> US 60/517,970

<151> 2003-11-07

<160> 86

<170> PatentIn version 3.2

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<212> DNA

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<213> Macaca fascicularis

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ser Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
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Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
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Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
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Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
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Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
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Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
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Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
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Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
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Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
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<213> *Macaca fascicularis*

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Thr Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
 100 105 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
 195 200 205

Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
 210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
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Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
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Val Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
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<213> *Macaca fascicularis*

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Phe Thr Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu
 100 105 110

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 145 150 155 160

Glu Val His His Ala Gln Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser
 165 170 175

Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
 180 185 190

Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
 195 200 205

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 210 215 220
 Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240
 Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
 245 250 255
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270
 Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285
 Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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 <213> *Macaca fascicularis*

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Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
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Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
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Arg Val Glu Phe Thr Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu
100 105 110

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
115 120 125

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
130 135 140

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
145 150 155 160

Glu Val His His Ala Gln Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser
165 170 175

Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
180 185 190

Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
195 200 205

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
210 215 220

Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
225 230 235 240

Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
245 250 255

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
260 265 270

Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
275 280 285

Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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1579

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Phe Thr Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu
 100 105 110

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 145 150 155 160

Glu Val His His Ala Gln Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser
 165 170 175

Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
 180 185 190

Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
 195 200 205

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 210 215 220

Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240

Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
 245 250 255

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270

Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285

Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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Val Ser Pro Gly Lys
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ccagaaaacc atctccaaag acaaagggca gccccgagag cctcaggtgt acaccctgcc 720
 cccgtcccgg gaggagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt 780
 ctaccccagc gacatcgctg tggagtggga gaggcagggg cagccggaga acacctacaa 840
 gaccacgccg cccgtgctgg actccgacgg ctctacttc ctctacagca agctcaccgt 900
 ggacaagagc aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct 960
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<210> 12
 <211> 335
 <212> PRT
 <213> Macaca fascicularis

<400> 12

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Val Ser
 1 5 10 15

Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
 20 25 30

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
 35 40 45

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
 50 55 60

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
 65 70 75 80

Thr Gln Thr Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys
 85 90 95

Val Asp Lys Arg Val Glu Phe Thr Arg Pro Cys Asp Asp Thr Thr Pro
 100 105 110

Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
 115 120 125

Phe Val Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 130 135 140

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
 145 150 155 160

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Gln
165 170 175

Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser Thr Tyr Arg Val Val Ser
180 185 190

Val Leu Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr
195 200 205

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile
210 215 220

Ser Lys Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
225 230 235 240

Pro Ser Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
245 250 255

Val Lys Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser
260 265 270

Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
275 280 285

Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
290 295 300

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
305 310 315 320

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330 335

<210> 13

<211> 1015

<212> DNA

<213> *Macaca fascicularis*

<400> 13

cgtctctagt ccaccaaggg cccatcgggc ttccccctgg tgcctgctc caggagcacc	60
tccgagagca cagcggccct gggctgcctg gtcaaggact acttccccga acccgtgacc	120
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca ctttccggc tgcctacag	180
tcctcagggc tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacc	240
cagacctacg tctgcaacgt cgttcatgag cccagcaaca ccaaggtgga caagagagtt	300
gagttcacac gcccatgtga tgacacaact cccccatgcc caccgtgccc agcacctgaa	360

```

ctcctggggg gaccgtcagt cttcgtcttc cccccaaaac ccaaggacac cctcatgac 420
tcccgggccc ctgaggtcac gtgctgtgtg gtggacgtga gccaggaaga ccccgaggtc 480
cagttcaact ggtacgtgga cggcgcggag gtgcatcatg cccagacgaa gccacgggag 540
acgcagtaca acagcacata tcgtgtgtgtc agcgtcctca ccgtcacgca ccaggactgg 600
ctgaacggca aggagtacac gtgcaaggtc tccaacaaag cctccccggc ccccatccag 660
aaaaccatct ccaaagacaa agggcagccc cgagagcctc aggtgtacac cctgcccccg 720
tcccggggagg agctgaccaa gaaccaggtc agcctgacct gcctgggtcaa aggcttctac 780
cccagcgaca tcgtcgtgga gtgggagagc agcgggcagc cggagaacac ctacaagacc 840
acgcgcggcg tgctggactc cgacgggtcc tacttctctt acagcaagct caccgtggac 900
aagagcaggt ggcagcaggg gaacgtcttc tcatgctccg tgatgcatga ggctctgcac 960
aaccactaca cccagaagag cctctccctg tctccgggta aatgagtcga catgc 1015

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<210> 14
<211> 333
<212> PRT
<213> Macaca fascicularis

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<400> 14

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```

Arg Leu Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Val Ser Cys Ser
1           5           10           15

```

```

Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
          20           25           30

```

```

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
          35           40           45

```

```

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
          50           55           60

```

```

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
65           70           75           80

```

```

Thr Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp
          85           90           95

```

```

Lys Arg Val Glu Phe Thr Arg Pro Cys Asp Asp Thr Thr Pro Pro Cys
          100          105          110

```

```

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Val
          115          120          125

```


Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140
 Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160
 Phe Asn Trp Tyr Val Asp Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175
 Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190
 Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205
 Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220
 Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240
 Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255
 Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270
 Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285
 Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300
 Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320
 His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 15
 <211> 1584
 <212> DNA
 <213> *Macaca fascicularis*

<400> 15
 gcctccacca agggcccatc ggtcttcccc ctggcgctcct gctccaggag cacctcccag

60

```

agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccctg gaccgtgtcg 120
tggaactcag gcgccctgac cagcggcgtg cacaccttcc aggctgtcct acagtcctca 180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cactcagacc 240
tacgtctgca acgtcgttca tgagcccagc aacaccaagg tggacaagac agttgggtgag 300
aggccagcga ggggaagggg gtgtctgctg gaagccaggc tcggccctcc tgccctggaca 360
aactctggct gtgcagcccc agcccagggc agcagggcag gcccctctg tcttctcacc 420
cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct ttttccacca 480
ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
tgctgggctc agacctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
cccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
aactcccaat cttctctctg cagggctccc atgtcgttcc acgtgccac cgtgccagg 720
taagccagcc caggcctcac cctccagctc aaggtgggac aagcgcccta gagtggcctg 780
tgtccaggga caggccctgc ccgggtgctg acacgtccac ctccatctct tctcagctg 840
aactcctggg gggaccgtca gtcttctct tcccccaaa acccaaggac acctcatga 900
tttccggac ccctgaggtc acgtgcgtgg tggtagacgt gagccaggaa gaacccgatg 960
tcaagttcaa ctggtacgtg gacggcgtgg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg taccgctggg tcagcgtcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa agccctcccg gccccaaagc 1140
agaaaactgt ctccaaaacc aaaggtggga cccgcggggc acgagggcca cgtggacaga 1200
ggccggctca gccacacctc tgccctggga gtgaccgtg tgccaacctc tgccctaca 1260
gggcagcccc gagagccaca ggtgtacacc ctgccccgc cccgggagga gctgaccaag 1320
aaccaggtca gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgtcgtggag 1380
tgggagagca gcgggcagcc ggagaacacc tacaagacca cccgcccgt gctggactcc 1440
gacggctcct acttctctta cagcaagctc accgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560
ctctccgtgt ctccgggtaa atga 1584

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<210> 16
<211> 326
<212> PRT
<213> *Macaca fascicularis*

<400> 16

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
1 5 10 15

Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Thr Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
100 105 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
195 200 205

Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 245 250 255

Val Val Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
 290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 305 310 315 320

Ser Val Ser Pro Gly Lys
 325

<210> 17
 <211> 1584
 <212> DNA
 <213> *Macaca fascicularis*

<400> 17
 gcctccacca agggcccatc ggtcttcccc ctggcgtcct gctccaggag cacctcccag 60
 agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccctg gaccgtgtcg 120
 tggaactcag ggcgcctgac cagcggcgtg cacaccttcc aggctgtcct acagtctctca 180
 gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
 tacgtctgca acgtcgttca tgagcccagc aacaccaagg tggacaagag agttgggtgag 300
 aggccagcga gggaaggggg gtgtctgctg gaagccaggc tcggccctcc tgctgggaca 360
 aactctggct gtgcagcccc agcccagggc agcagggcag gccccgtctg tctctcacc 420
 cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct tttccacca 480
 ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
 tgctgggctc agacctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
 ccccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
 aactcccaat cttctctctg cagggctccc atgtcgttcc acgtgccac cgtgccagg 720
 taagccagcc caggcctcac cctccagctc aaggtgggac aagcgcccta gagtggcctg 780
 tgtccaggga caggccctgc ccgggtgctg acacgtccac ctccatctct tcctcagctg 840
 aactcctggg gggaccgtca gtcttctctt tcccccaaa acccaaggac accctcatga 900
 tttccgggac ccctgaggtc acgtgcgtgg tggtagacgt gagccaggaa gaaccgatg 960

```

tcaagttcaa ctggtacgtg gacggcgtgg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg tacgcgctgg tcagcgtcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa agccctcccg gcccacaaagc 1140
agaaaactgt ctccaaaacc aaaggtggga cccgcggggc acgagggcca cgtggacaga 1200
ggccggctca gccaccctc tgccctggga gtgaccgctg tgccaacctc tgtccctaca 1260
gggcagcccc gagagccaca ggtgtacacc ctgccccgcg cccgggagga gctgaccaag 1320
aaccagggtca gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgtcgtggag 1380
tgggcgagca acgggcagcc ggagaacacc tacaagacca ccccgcccggt gctggactcc 1440
gacggctcct acttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560
ctctccgtgt ctccgggtaa atga 1584

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<210> 18
 <211> 326
 <212> PRT
 <213> *Macaca fascicularis*

<400> 18

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
 1 5 10 15

Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
 100 105 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140
 Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160
 Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175
 Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190
 Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
 195 200 205
 Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
 210 215 220
 Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
 225 230 235 240
 Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 245 250 255
 Val Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270
 Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285
 Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
 290 295 300
 Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 305 310 315 320
 Ser Val Ser Pro Gly Lys
 325

<210> 19
 <211> 978
 <212> DNA
 <213> Macaca fascicularis

<400> 19
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60

acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccctgtgac cgtgtcgtgg 120
 aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcaggg 180
 ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttggggcac ccagacctac 240
 gtctgcaacg tcgttcatga gccagcaac accaagggtg acaagacagt tgggctccca 300
 tgtcgttcca cgtgcccacc gtgcccagct gaactcctgg ggggaccgtc agtcttcttc 360
 tccccccaa aacccaagga caccctcatg atttcccgga cccctgaggt cacgtgcgtg 420
 gtggtggacg tgagccagga agaaccgat gtcaagttca actggtacgt ggacggcgtg 480
 gaggtgcaca atgcccagac aaagccgagg gaggagcagt tcaacagcac gtatcgcgtg 540
 gtcagcgtcc tcaccgtcac acaccaggac tggctgaacg gcaaggagta cacgtgcaag 600
 gtctccaaca aagccctccc ggccccaagg cagaaaactg tctccaaaac caaagggcag 660
 ccccgagagc cgcaggtgta caccctgccc ccgccccggg aggagctgac caagaaccag 720
 gtcagcctga cctgcctgat caaaggcttc taccacagcg acatcgtcgt ggagtgggag 780
 agcaacgggc agccggagaa cacctacaag accacgccgc ccgtgctgga ctccgacggc 840
 tctacttcc tctacagcaa gctcaccgtg gacaagagca ggtggcagca ggggaacacc 900
 ttctcatgct ccgtgatgca tgaggctctg cacaaccact acaccagaa ggcctctcc 960
 ctgtctccgg gtaaatga 978

<210> 20
 <211> 325
 <212> PRT
 <213> *Macaca fascicularis*

<400> 20

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg Ser
 1 5 10 15

Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 20 25 30

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 35 40 45

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 50 55 60

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 65 70 75 80

Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys Thr
 85 90 95
 Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu Leu
 100 105 110
 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140
 Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 145 150 155 160
 Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 165 170 175
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
 180 185 190
 Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 195 200 205
 Pro Arg Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
 210 215 220
 Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240
 Val Ser Leu Thr Cys Leu Ile Lys Gly Phe Tyr Pro Ser Asp Ile Val
 245 250 255
 Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270
 Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285
 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
 290 295 300
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 305 310 315 320

Leu Ser Pro Gly Lys
325

<210> 21
<211> 1584
<212> DNA
<213> *Macaca fascicularis*

<400> 21
gcctccacca agggcccatc ggtcttcccc ctggcgctct gctccaggag cacctcccag 60
agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccctg gaccgtgtcg 120
tggaactcag gcgccctgac cagcggcgctg cacaccttcc aggctgtcct acagtccctca 180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
tacgtctgca acgtcggttca tgagcccagc aacaccaagg tggacaagag agttgggtgag 300
aggccagcga ggggaggggg gtgtctgctg gaagccaggc tcggccctcc tgcttgga 360
aactctggct gtgcagcccc agcccagggc agcagggcag gcccgtctg tctcctcacc 420
cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct ttttcacca 480
ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
tgctgggctc aggcctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
cccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
aactcccaat cttctctctg cagggctccc atgtcggtcc acgtgccac cgtgccagg 720
taagccagcc caggcctcac cctccagctc aagggtgggac aagcgcccta gagtggcctg 780
tgtccaggga caggccctgc ccgggtgctg acacgtccac ctccatctct tctcagctg 840
aactcctggg gggaccgtca gtcttctct tcccccaaa acccaaggac accctcatga 900
tttcccgga cctgaggtc acgtgcgtgg tggtagcgt gagccaggaa gaaccgatg 960
tcaagttcaa ctggtacgtg gacggcgctg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg taccgcgtgg tcagcgtcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa aggcctcccg gcccctcctg 1140
agaaaaccat ctcaaagcc aaaggtggga cccgcggggc ccgagggcca cgtggacaga 1200
ggccggctca gcccaccctc tgccctggga gtgaccgtg tgccaacctc tgtccctaca 1260
gggcagcccc gagagccgca ggtgtacatc ctgccccgcg ccagaggagga gctgaccaag 1320
aaccaggtca gctgacctg cctgggtcaca ggcttctacc ccagcgacat cgccgtggag 1380
tgggagagca acgggcagcc ggagaacacc tacaagacca cccgccccgt gctggactcc 1440
gacggctcct acttctctta cagcaagctc atcgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560

ctctccgtgt ctccgggtaa atga

1584

<210> 22

<211> 326

<212> PRT

<213> Macaca fascicularis

<400> 22

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
 1 5 10 15

Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
 100 105 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro
 195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
210 215 220

Pro Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn
225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile
245 250 255

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
275 280 285

Leu Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
305 310 315 320

Ser Val Ser Pro Gly Lys
325

<210> 23
<211> 996
<212> DNA
<213> *Macaca fascicularis*

<400> 23
gcctccacca agggcccatc ggtcttcccc ctggcgccct cctccaggag cacctccgag 60
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tggaactcag gtcctctgac cagcggcgctg cacaccttcc cggctgtcct acagtcctca 180
gggctctact ccctcagcag cgtgggtgacc gtgcctcca gcagcttggg caccagacc 240
tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata 300
acatgtggtg gtggcagcaa acctcccacg tgcccaccgt gcccagcacc tgaactcctg 360
gggggaccgt cagtcttctt cttcccccca aaaccaagg acaccctcat gatctcccg 420
accctgagg tcacgtgcgt ggtggtagac gtgagccagg aagacccga tgtcaagttc 480
aactggtacg taaatggcgc ggaggtgcat catgcccaga cgaagccacg ggagacgcag 540
tacaacagca catatcgtgt ggtcagcgtc ctcacgtca cgcaccagga ctggctgaac 600
ggcaaggagt acacgtgcaa ggtctccaac aaagccctcc cggccccat ccagaaaacc 660

atctccaaag acaaagggca gccccgagag cctcaggtgt acaccctgcc cccgtcccgg 720
 gaggagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctaccccagc 780
 gacatcgctcg tggagtggga gagcagcggg cagccggaga acacctataa gaccaccccg 840
 cccgtgctgg actccgacgg ctctacttc ctctacagca agctcacctg ggacaagagc 900
 aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac 960
 tacaccaga agagcctctc cctgtctccg ggtaaa 996

<210> 24
 <211> 332
 <212> PRT
 <213> *Macaca fascicularis*

<400> 24

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
 1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ser Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Ile Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys Pro
 100 105 110

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
 115 120 125

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 130 135 140

Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Asp Val Lys Phe
 145 150 155 160

Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys Pro
165 170 175

Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
180 185 190

Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val
195 200 205

Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys Asp
210 215 220

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
225 230 235 240

Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
245 250 255

Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln Pro
260 265 270

Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
275 280 285

Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
290 295 300

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
305 310 315 320

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 25
<211> 999
<212> DNA
<213> Macaca fascicularis

<400> 25
gcctccacca agggcccatc ggtcttcccc ctggcgccct cctccaggag cacctccgag 60
agcacagcgg ccctgggctg cctgggtcaag gactacttcc ctgaaccctg gaccgtgtcg 120
tggaactcag gcgccctgac cagcggcgctg cacaccttcc cggctgtcct acagtctca 180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagagacc 240
tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata 300
aaaacatgtg gtgggtggcag caaacctccc acgtgcccac cgtgcccagc acctgaactc 360

ctgggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc 420
 cggaaccctg aggtcacatg cgtgggtggtg gacgtgagcc aggaagaccc cgaggtccag 480
 ttcaactggt acgtaaacgg cgcggaggtg catcatgccc agacgaagcc acgggagacg 540
 cagtacaaca gcacgtaccg cgtgggtcagc gtcctcaccg tcacacacca ggactggctg 600
 aacggcaagg agtacacgtg caaggtctcc aacaaagccc tcccggcccc catccagaaa 660
 accatctcca aagacaaagg gcagccccga gagcctcagg tgtacaccct gccccgtcc 720
 cgggaggagc tgaccaagaa ccaggtcagc ctgacctgcc tgggtcaaagg cttctacccc 780
 agcgacatcg tcgtggagtg ggagagcagc gggcagccgg agaacaccta caagaccacc 840
 ccgcccgtgc tggactccga cggctcctac ttctctaca gcaagctcac cgtggacaag 900
 agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcattgagc tctgcacaac 960
 cactacaccc agaagagcct ctccctgtct ccgggtaaa 999

<210> 26
 <211> 333
 <212> PRT
 <213> *Macaca fascicularis*

<400> 26

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
100 105 110

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
115 120 125

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160

Phe Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 27

<211> 999

<212> DNA

<213> *Macaca fascicularis*

<400> 27

gcctccacca agggcccatc ggtcttcccc ctggcgccct cctccaggag cacctccgag

60

agcacagcgg ccctgggctg cctgggtcaag gactacttcc ctgaaccctg gaccgtgtcg 120
 tggaactcag gcgccctgac cagcggcggtg cacaccttcc eggctgtcct acagtctctca 180
 gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
 tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata 300
 aaaacatgtg gtgggtggcag caaacctccc acgtgcccac cgtgcccagc acctgaactc 360
 ctgggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc 420
 cggacccttg aggtcacatg cgtgggtggtg gacgtgagcc aggaagaccc cgaggccag 480
 ttcaactggt acgtaaacgg cgcggaggtg catcatgccc agacgaagcc acgggagacg 540
 cagtacaaca gcacgtaccg cgtgggtcagc gtcctcaccg tcacacacca ggactggctg 600
 aacggcaagg agtacacgtg caaggtctcc aacaaagccc tcccggcccc catccagaaa 660
 accatctcca aagacaaagg gcagccccga gagcctcagg tgtacaccct gcccccgctc 720
 cgggaggagc tgaccaagaa ccaggtcagc ctgacctgcc tggtaaagg cttctacccc 780
 agcgacatcg tcgtggagtg ggagagcagc gggcagccgg agaacaccta caagaccacc 840
 ccgcccgtgc tggactccga cggctcctac ttctctaca gcaagctcac cgtggacaag 900
 agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcagagggc tctgcacaac 960
 cactacaccc agaagagcct ctccctgtct cgggtaaa 999

<210> 28

<211> 333

<212> PRT

<213> *Macaca fascicularis*

<400> 28

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
 1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
 100 105 110

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
 115 120 125

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160

Phe Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys.
 325 330

<210> 29
 <211> 324
 <212> DNA
 <213> *Macaca fascicularis*

<400> 29
 cgcgctgtgg ctgcaccatc tgtcttcac ttcccgccat ctgaggatca ggtgaaatct 60
 ggaactgtct ctgttgtgtg cctgctgaat aacttctatc ccagagagggc cagcgtaaag 120
 tggaaggtgg atggtgtcct caaaacgggt aactcccagg agagtgtcac agagcaggac 180
 agcaaggaca acacctacag cctgagcagc accctgacgc tgagcagcac agactaccag 240
 agtcacaatg tctatgcctg cgaagtcacc catcagggcc tgagctcgcc cgtcaccaag 300
 agcttcaaca gaggagagtg ttag 324

<210> 30
 <211> 107
 <212> PRT
 <213> *Macaca fascicularis*

<400> 30

Arg Ala Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Glu Asp
 1 5 10 15

Gln Val Lys Ser Gly Thr Val Ser Val Val Cys Leu Leu Asn Asn Phe
 20 25 30

Tyr Pro Arg Glu Ala Ser Val Lys Trp Lys Val Asp Gly Val Leu Lys
 35 40 45

Thr Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Asn
 50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Ser Thr Asp Tyr Gln
 65 70 75 80

Ser His Asn Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 100 105

<210> 31
 <211> 20
 <212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 31

gcctccacca agggccctcg

20

<210> 32

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 32

tttaccgga gacagggaga g

21

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 33

gcctccacca agggccctcg

20

<210> 34

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 34

tttaccgga gacagggaga g

21

<210> 35

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 35

gtcacatggc accacctctc t

21

<210> 36

<211> 21

<212> DNA

<213> Artificial Sequence

<220>
<223> Primer

<400> 36
ggtacgtgcc aagcatcctc g

21

<210> 37
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 37
ctggcgctcct gctccaggag c

21

<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 38
gctcctggag caggacgcca g

21

<210> 39
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 39
gctagcacca agggcccatc ggtctt

26

<210> 40
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 40
aactgtcttg tcgaccttgg tgttg

25

<210> 41
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 41

caacaccaag gtcgacaaga gagtt

25

<210> 42

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 42

gcggccgctc atttaccgg agacacggag

30

<210> 43

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 43

cgtctctagt gcctccacca agggcccatc

30

<210> 44

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 44

gcatgtcgac tcatttacc ggagacaggg agag

34

<210> 45

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 45

atcaaacgag ctgtggctgc acca

24

<210> 46

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 46

caggtggggg cacttctccc t

21

<210> 47

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 47

gaggttcagc	tggtgcagtc	tgggggaggc	ttggtacatc	ctgggggggc	cctgagactc	60
tcctgtgcag	gctctggatt	caccttcagt	agaaatgcta	tggtctgggt	tcgccaggct	120
ccaggaaaag	gtctggagtg	ggtatcaggt	attggtactg	gtggtgccac	aaactatgca	180
gactccgtga	agggccgatt	caccatctcc	agagacaatg	ccaagaactc	cttgatatctt	240
caaatgaaca	gcctgagagc	cgaggacatg	gctgtgtatt	actgtgcaag	agggaggtac	300
tactttgact	actggggcca	gggaaccctg	gtcacctgtc	cctca		345

<210> 48

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 48

gaggttcagc	tggtgcagtc	tgggggaggc	ttggtacatc	ctgggggggc	cctgagactc	60
tcctgtgcag	gctctggatt	caccttcagt	agaaatgcta	tggtctgggt	tcgccaggct	120
ccaggaaaag	gtctggagtg	ggtatcaggt	attggtactg	gtggtgccac	aagctatgca	180
gactccgtga	agggccgatt	caccatctcc	agagacaatg	ccaagaactc	cttgatatctt	240
caaatgaaca	gcctgagtgc	cgaggacatg	gctgtgtatt	actgtgcaag	agggaggtac	300
tacttcaccc	actggggcca	gggaaccctg	gtcacctgtc	cctca		345

<210> 49

<211> 347

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 49

gaggttcagc	tggtgcagtc	tgggggaggc	ttggtacatc	ctgggggggc	cctgagactc	60
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tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggtacaaca actggggcca gggaaccctg gtcaccgtct cctcaca 347

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<210> 50
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

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<400> 50
gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

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<210> 51
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

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<400> 51
gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tacttcacga ggtggggcca gggaaccctg gtcaccgtct cctca 345

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<210> 52
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 52
gagggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 53

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 53
gagggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 54

<211> 345

<212> DNA

<213> Artificial Sequence;

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 54
gagggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 55

<211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 55
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggagggtac 300
 tggttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 56
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 56
 gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggagggtac 300
 tggtagccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 57
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 57
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggagggtac 300

tggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 58
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 58
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 59
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 59
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagtg gcaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 60
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 60
 gaggttcagt tgggtggagtc tgggggaggc ttggtacagc ctgggggggtc cctgagactc 60
 tcctgtgcag cctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120

ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcaag agggaggtac 300
 tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 61
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 61

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 62
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 62

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Ser Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Thr His Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 63
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 63

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Asn Asn Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 64
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 64

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 65
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 65

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Thr Arg Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 66

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 66

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser

<210> 67

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 67

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 68

<211> 115

<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 68

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Trp Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 69
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 69

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 70
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 70

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 71
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 71

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 72
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 72

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 73
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 73

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Ser Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
115

<210> 74
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 74

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 75
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 75
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcagctact tagcctggta ccagcagaaa 120

cctggccagg ctcccaggct cctcatcttt ggtgcatcca gcagggccac tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtgtg ttactgtcag cagtatggta gctcacctcc gtggacgttc 300
 ggccaaggga ccaaggtgga aatcaaa 327

<210> 76
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 76
 gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gactgttagc aacagctact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggcccc tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtgtg ttactgtcag cagtatgata actcagcagg gtggacgttc 300
 ggccaaggga ccaaggtgga gatcaaa 327

<210> 77
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 77
 gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccggggga aagagccacc 60
 ctctcctgca gggccagtca gactgttaac agcgactact tagcctggta ccagcagaaa 120
 ccggggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtcta ttactgtcag cagtatggta gggtcacctcc gtggacgttc 300
 ggccaaggga ccaaagtgga tatcaaa 327

<210> 78
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 78
 gaaattgtga tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttagc agcgactact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcta gcagggcctc tggcatccca 180
 gacaggttca gtggcagtgg gtttgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcaatata ttactgtcag cagtatggta gctcacctcc gtggacgttc 300
 ggccaaggga ccaaggtgga aatcaaa 327

<210> 79
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 79
 gatattgtgc tgacccagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttaac agcaactact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtacatcct acagggccac tggcatccca 180
 gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcac cagactggag 240
 cctgaagatt ttgcagtgtg ttactgtcag cagtatggta gctcaccacc gtggacgttc 300
 ggccaaggga cacgactgga gattaata 327

<210> 80
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 80
 gatattgtgc tgacgcagac tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttggc agcagctact tagcctggta ccagcagaga 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatcccg 180
 gacaggttca gtggcagtgg gtctgggaca gacttcactc tcacgatcag cagactggag 240
 cctgaagatt ttgcagtgtg ttattgtcag cagtatggaa gttcacctcc gtggatgttc 300
 ggccaaggga ccaaggtgga gatcaaa 327

<210> 81
 <211> 109
 <212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 81

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Phe Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 82

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 82

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Pro Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp His Ser Ala
 85 90 95

Gly Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 83
 <211> 109
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 83

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Thr Val Asn Ser Asp
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Arg Ser Pro
 85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
 100 105

<210> 84
 <211> 109
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 84

Glu Ile Val Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asp
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Ser Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 85
 <211> 109
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 85

Asp Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Asn
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Thr Ser Tyr Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 86

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 86

Asp Ile Val Leu Thr Gln Thr Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Ser
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Met Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105